

## TABLE OF CONTENTS

Volume 162

### ARTICLES

AWADALLA, NABIL S. / A Photometric Light Variation and a 1500 Days Secondary Period in the W UMa System TZ Bootis	211
BATTANER, E., J. ISERN, and E. FLORIDO / Magnetic Fields and Chemical Evolution in the Disk of the Milky Way	35
BERRÍOS-SALAS, MARÍA LINA, MARGARITA GUZMÁN-VEGA, JOSÉ FERNÁNDEZ-LABRA, and MANLIO MALDINI-SÁNCHEZ / Light Curves of the Eclipsing System of RS CVn-Type	205
BOEHNHARDT, H., H. KOEHNKE, and A. SEIDEL / The Acceleration and the Deceleration of the Tumbling Period of Rocket Intercosmos 11 during the First Two Years after Launch	297
DEMIRCAN, O., F. F. ÖZEREN, and E. DERMER / <i>UBV</i> Photometry of HR 1176	337
EL-SABAA, F. M. / The Periodic Solution of a Rigid Body in a Central Newtonian Field	235
GEROYANNIS, V. S. and CATHERINE J. FLOGAITIS / Secular Variations in the Restricted Problem: A Numerical Technique for Studying Stability of Equilibrium Solutions	71
KHATER, A. H. / Analytical Solutions for Some Nonlinear Two-Dimensional Magnetostatic Equilibria	151
KNUTSEN, HENNING / The Physical Properties of an Analytic Model for a Relativistic Star	315
MANSOUR, M. A. / Mixed Convection-Radiation Interaction in Boundary Layers Adjacent to Horizontal, Continuous Moving Sheets with Suction and Injection	243
NEDIALKOV, P. L., R. G. KOURTEV, and G. R. IVANOV / The Brightest Blue and Red Stars in M31	1
OJHA, S. N. and V. D. TIWARI / Cylindrical Magnetohydrodynamic Model of Shock Waves with Radiation Heat Flux	57
ÖZGÜÇ, ATILA / 78-Day Periodicity in the Solar 1-8 Å X-Ray Index during the Ascending Branch of Cycle 21	123
ÖZGÜÇ, ATILA and AYTEN DÜZGELEN / Distribution of LDE Flares on the Sun during Solar Cycles 20 and 21	27
SAITOU, MASAYA / Effects of Metal Abundances on the Evolutionary Period Changes of Classical Cepheids	47
SARRIS, E. / Families of Symmetric-Periodic Orbits in the Elliptic Three-Dimensional Restricted Three-Body Problem	107

## TABLE OF CONTENTS

SINGH, A. K. and J. N. SINGH / Transient MHD Free Convection in a Rotating System	85
SINGH, MARKANDEY and JAI PRAKASH CHATURVEDI / Polyatomic Molecules, Molecular Ions, and Radicals of Astrophysical Interest, I	251
SINGH, MARKANDEY and JAI PRAKASH CHATURVEDI / Vibrational Transition Probabilities, $\tilde{\tau}$ -Centroids and Morse PE-Curves for SiS	279
SINGH, MARKANDEY and JAI PRAKASH CHATURVEDI / Polyatomic Molecules, Molecular Ions, and Radicals of Astrophysical Interest, II	287
SINGH KOIJAM, MANIHAR / Rotational Perturbations of Charged Cosmological Viscous-Fluid Universes Coupled with a Scalar Field	129
SRIVASTAVA, H. M. and ZDENĚK KOPAL / Further Notes on the Associated Alpha-Functions and Related Integrals in the Theory of the Light Changes of Eclipsing Variables	181
UMEZU, MINORU / Some Problems in Constructing Massive Star Models Containing a Chemically-Inhomogeneous Convective Core with the Local Mixing-Length Theory	13

## LETTERS TO THE EDITORS

CHATTERJEE, S. / Magnetic Field Induced Metal-Insulator Transition in a One-Dimensional Chain: Application to Neutron Star Atmospheres	167
DUBEC, MILOSLAV and VLADIMÍR SKALSKÝ / A Note on the Superluminal Velocity in Cosmological Models	341
GUPTA, SUMAN and S. P. S. VIRDHI / Information Content in Astronomical Images	159
ONUORA, L. I. / The Linear Size Evolution of Extragalactic Radio Sources Revisited	343
ONUORA, L. I. / The Variation of Spectral Index with Luminosity for Radio Galaxies	349
SHANTHI, K. / Conformally Flat Static Space-Time in the General Scalar-Tensor Theory of Gravitation	163
SKALSKÝ, VLADIMÍR / A Note on the Problem of Choosing a Model of the Universe, III	171

## BOOK REVIEWS

Die neuen Kosmos-Himmelskarten: Nördlicher und südlicher Sternhimmel für das Äquinoktium 2000.0 (HANS JOACHIM HAUBOLD)	354
Dunlop, S., Astronomie für Einsteiger (HANS JOACHIM HAUBOLD)	353
Green, M. B., J. H. Schwarz, and E. Witten, Superstring Theory (JIŘÍ BIČÁK)	353
Hermann, J., Sterne: Der nördliche Himmel in Farbe (HANS JOACHIM HAUBOLD)	353
Kaler, J. B., Stars and Spectra (JOHN DYSON)	176
Kalkofen, W. (ed.), Numerical Radiative Transfer (JOHN DYSON)	177

TABLE OF CONTENTS

Karkoschka, E., <i>Atlas für Himmelsbeobachter: Sternatlas zum Himmelsjahr 1989</i> (HANS JOACHIM HAUBOLD)	353
Keller, H.-U., <i>Das Himmelsjahr 1989: Sonne, Mond, und Sterne im Jahreslauf</i> (HANS JOACHIM HAUBOLD)	353
Kundu, M. R., B. Woodgate, and E. J. Schmahl (eds.), <i>Energetic Phenomena on the Sun</i> (M. SOBOTKA)	175
Lena, P., <i>Observational Astrophysics</i> (JOHN DYSON)	176
Naumczyk, I., <i>Hören, wo die Sterne stehen: Himmelsspaziergang mit Tonkassette, Mini-Sternkarte und Textheft</i> (HANS JOACHIM HAUBOLD)	354
Sinnott, R. W. (ed.), <i>NGC 2000.0</i> (JOHN DYSON)	176
ANNOUNCEMENT	178
LIST OF FORTHCOMING PAPERS	179, 355
PUBLISHER'S NOTE	iii